

29. (New) A stencil printing emulsion ink as defined in Claim 26, wherein the content of the alkyl-modified carboxyvinyl polymer and/or the carboxyvinyl polymer is 0.01 to 1% by weight of the total weight of the ink.

30. (New) A stencil printing emulsion ink as defined in Claim 26, wherein the ink is in the form of a W/O emulsion in which the content of the oil phase is 20 to 40% by weight of the total weight of the ink and the content of the water phase is 60 to 80 % by weight of the total weight of the ink.

REMARKS

The Office Action of September 25, 2002 was received and carefully reviewed. As a result, reconsideration and withdrawal of the currently pending rejections are requested for the reasons advanced in detail below.

Claims 6-25 were pending prior to the instant amendment. By the above amendments, claims 9-10, 16-17, 23-24 have been canceled, and new claims 26-30 added, claim 26 being independent; consequently, claims 6-8, 11-15, 18-22, and 25-30 are now pending in the instant application.

Applicant acknowledges that applicant's proposed amendment of June 7, 2002 to page 6 of the specification, as set forth has not been entered. Please note that the specification, at pages 5-6, line 1, contained a typographical error in reciting "0.1 to 1%" rather than "0.01 to 1%" as set forth in original claim 4 and Table 1, Examples 1 and 4. A "clean version" and a "marked up" version of the changes is herein provided. Accordingly, entry of this amendment is respectfully requested.

The Examiner's sets forth the following rejections:

1) Claims 6-10, under 35 U.S.C. 102(e), as being anticipated by the teachings of either Asada ('258);

2) Claims 11-25, under 35 U.S.C. 102(e), as being anticipated by the teachings of Asada ('258);

3) Claims 6-10, under 35 U.S.C. 103(a), as being unpatentable over Asada ('258);

4) Claims 6-7, under 35 U.S.C. 103(a), as being unpatentable over Ono et al. ('815) in view of Asada ('248);

5) Claims 6-10, under 35 U.S.C. 103(a), as being unpatentable over JP ('401) over Asada ('248); and

6) Claims 13-20, under U.S.C. 103(a), as being unpatentable over Asada ('258).

The primary advantage of the present invention lies in the use of a carboxyvinyl polymer and/or an alkyl-modified carboxyvinyl polymer as an emulsifying agent, instead of a non-ionic surfactant or emulsifying agent as conventionally employed in emulsion formation. Conventional emulsifying agents, e.g., a non-ionic surfactant, enables formation of a liquid crystal structure between the oil phase and the aqueous phase which results in improved storage stability. This liquid crystal structure, however, decreases the rate of penetration of the ink into printed paper since the water contained therein is less apt to be evaporated due to the liquid crystal structure. This causes offset, i.e., ink on the surface of a piece of printed paper is transfers to the back of another piece of the printed paper, and/or blocking, i.e., a plurality of pieces of printed paper bind to each other by ink on their surfaces.

On the other hand, if the ability of the emulsion ink to form liquid crystals is weakened in order to improve ink penetration into the paper, storage stability is deteriorated. Thus, it was heretofore difficult to make emulsion ink which is excellent in both storage stability and ink penetration into paper by the use of known emulsifying agents. The present invention has achieved the combination of excellent storage stability and excellent ink penetration into paper by the use of a carboxyvinyl polymer and/or an alkyl-modified carboxyvinyl polymer as an emulsifying agent.

Neither Asada ('258), Ono et al. ('815) nor JP ('401) teach or suggest a stencil

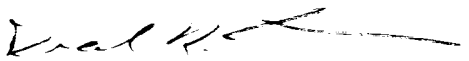
printing emulsion ink as set forth in the claims as amended herein, wherein the ink is substantially devoid of a non-ionic surfactant. To the contrary, both Asada ('258) and JP ('404) employ a non-ionic surfactant, which is well-known to function as an emulsifying agent, but is subject to the aforementioned disadvantages.

As for Ono et al. ('851), this reference is directed to an aqueous ink and not an emulsion ink. This disclosure neither teaches, suggest, nor provides the motivation of one of ordinary skill to employ carboxypolymer and/or a alkyl-modified carboxypolymer as an emulsifying agent.

In view of the foregoing, it is respectfully submitted that none of the references disclose each and every feature of the presently claimed ink composition as required for anticipation under 35 U.S.C. 102(e), and MPEP Chapter 2131. Likewise, none of the references provide a suggestion for combining the features of the present invention, as is required for a prima facie case of obviousness, under 35 U.S.C. 103(a) and MPEP Chapter 2143, the rejections of claims 1-5 (now claims 6-25) under 35 U.S.C. 102(e) or 35 U.S.C. 103(a) are believed to be improper.

In view of the foregoing, the present application should now be in condition for allowance and a notice to that effect is respectfully requested.

Respectfully submitted,



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MARKED-UP VERSION OF THE SPECIFICATION

In the Specification

At pages 5-6, please replace the first paragraph beginning with “and/or the carboxyvinyl polymer...” with the following:

The content of the alkyl-modified carboxyvinyl polymer and/or the carboxyvinyl polymer is preferably 0.01 to 1% by weight, more preferably 0.01 [0.1] to 0.6% by weight, and most preferably 0.2 to 0.4% by weight of the total weight of the ink irrespective of the kind of the alkyl-modified carboxyvinyl polymer and/or the carboxyvinyl polymer, or whether only one of the alkyl-modified carboxyvinyl polymer and the carboxyvinyl polymer is used or both the alkyl-modified carboxyvinyl polymer and the carboxyvinyl polymer are used in combination.



MARKED UP VERSION OF THE CLAIMS

6. (Amended) A stencil printing emulsion ink comprising:
- An oil phase component,
 - A water phase component,
 - An alkyl-modified carboxyvinyl polymer and/or carboxyvinyl polymer in which the content of the alkyl-modified carboxyvinyl polymer and/or carboxyvinyl polymer is 0.2 to 0.4% by weight of the total weight of the ink, and
- borax, wherein said ink is essentially devoid of a non-ionic surfactant.
11. (Amended) A stencil printing emulsion ink comprising:
- an oil phase component,
 - a water phase component,
 - an alkyl-modified carboxyvinyl polymer in which the content of the alkyl-modified carboxyvinyl polymer is 0.01 to 1% by weight of the total weight of the ink, and
- borax, wherein said ink is substantially devoid of a non-ionic surfactant.
18. (Amended) A stencil printing emulsion ink comprising;
- an oil phase component,
 - a water phase component,
 - an alkyl-modified carboxyvinyl polymer and carboxyvinyl polymer in which the content of the alkyl-modified carboxyvinyl polymer and the carboxyvinyl polymer is 0.01 to 1% by weight of the total weight of the ink, and
- borax, wherein said ink is essentially devoid of a non-ionic surfactant.
25. (Amended) A stencil printing emulsion ink comprising:
- an oil phase component,
 - a water phase component,
 - an alkyl-modified carboxyvinyl polymer and carboxyvinyl polymer in which the content

of the alkyl-modified carboxyvinyl polymer and the carboxyvinyl polymer is 0.01 to 1% by weight of the total weight of the ink, and

borax in which the content of the borax is 0.001 to 2% by weight of the total weight of the ink,

wherein the ink is in the form of a W/O emulsion in which the content of the oil phase is 20 to 40% of the total weight of the ink and the content of the water phase is 60 to 80% of by weight of the total weight of the ink, and

wherein said ink is essentially devoid of a non-ionic surfactant.